



UNITED STATES PATENT AND TRADEMARK OFFICE

Cen

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/556,349	11/10/2005	Takeshi Hashimoto	050615	8934
23850	7590	10/16/2007	EXAMINER	
KRATZ, QUINTOS & HANSON, LLP			ROJAS, BERNARD	
1420 K Street, N.W.			ART UNIT	PAPER NUMBER
Suite 400			2832	
WASHINGTON, DC 20005				
MAIL DATE		DELIVERY MODE		
10/16/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/556,349	HASHIMOTO ET AL.	
	Examiner	Art Unit	
	Bernard Rojas	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5,8,9 and 15-21 is/are rejected.
- 7) Claim(s) 6,7,10-14 and 22 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 - 1 Certified copies of the priority documents have been received.
 - 2 Certified copies of the priority documents have been received in Application No. _____.
 - 3 Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 11102005 09142007.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 9-11 and 15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 7,102,473. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claim 1, U.S. Patent No. 7,102,473 discloses a micro relay comprising: a base substrate [body, col. 9 line 22] having an electromagnetic device [electromagnetic mechanism, col. 9 line 22], said base substrate having a fixed contact [fixed contact, col. 9 line 32] on one surface thereof; an armature block [armature block, col. 9 line 25] including a frame [frame, col. 9 line 26] secured to the surface of said base substrate, a

movable plate [armature base, col. 9 line 26] disposed inside said frame and supported rotatably by said frame, and a movable contact base [contact mechanism, col. 9 line 32] supported by said movable plate and having a movable contact [movable contact, col. 9 lines 32-33], said movable plate cooperating with a magnetic material provided on a surface of said movable plate to define an armature [col. 9 lines 29-31] and being driven by said electromagnetic device to switch on/off a connection between said fixed contact and said movable contact; a cover [cover, col. 9 lines 24] bonded to said frame, said cover creating a space surrounded by said frame and closed between said base substrate and the cover to accommodate said armature and said fixed contact; wherein said base substrate has a storage recess for accommodating said electromagnetic device, said storage recess being composed of a hole extending from the one surface of said base substrate to a rear surface thereof and a thin storage recess lid fixed on the one surface of said base substrate to close said hole [col. 9 lines 44 to col. 10 line 5], said electromagnetic device including a yoke, a coil wound around said yoke to generate a flux in response to an exciting current, and a permanent magnet secured to said yoke to generate a flux flowing through said armature and said yoke [col. 9 lines 41-43].

Claim 9, U.S. Patent No. 7,102,473 discloses the micro relay as set forth in claim 1, wherein said storage recess lid is made of a silicon layer which was formed by selectively removing a silicon substrate and an insulating layer from a SOI substrate which comprises the silicon substrate and the thin film silicon layer formed on the insulation layer of the silicon substrate [col. 10 lines 1-5].

Art Unit: 2832

Claim 10, U.S. Patent No. 7,102,473 discloses the micro relay as set forth in claim 1, wherein said cover is closely bonded to said frame to create a sealed space surrounded by said frame and closed between said base substrate and the cover [col. 9 lines 35-40], said base substrate having a fixed contact through-hole extending from the one surface of the base substrate to the rear surface thereof, a fixed contact electrode formed on the rear surface of the base substrate, a fixed contact conductive layer formed on an inner surface of said fixed contact through-hole for an electrical connection between said fixed contact and said fixed contact electrode [col. 10 lines 6-14], and a thin film through-hole lid provided on the one surface of said base substrate to close said fixed contact through-hole [col. 10 lines 1-5].

Claim 11, U.S. Patent No. 7,102,473 discloses the micro relay as set forth in claim 1, wherein said cover is closely bonded to said frame to create a sealed space surrounded by said frame and closed between said base substrate and the cover [col. 9 lines 35-40], said base substrate having a fixed contact through-hole extending from the one surface of the base substrate to the rear surface thereof, a fixed contact electrode formed on the rear surface of the base substrate, a fixed contact conductive layer formed on an inner surface of said fixed contact through-hole for an electrical connection between said fixed contact and said fixed contact electrode, and a metal material buried in the through-hole to close the through-hole [col. 10 lines 6-14].

Claim 15, U.S. Patent No. 7,102,473 discloses the micro relay as set forth in claim 1, wherein said movable plate is supported by said frame through a supporting spring piece having elastic deformability, said movable contact base being supported by

said movable plate through a pressure spring piece, said frame, said movable plate, said movable contact base, said supporting spring piece, and said pressure spring piece being formed from one semiconductor substrate [col. 10 lines 28-36].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claims 1-5, 8, 9 and 15-21 are rejected under 35 U.S.C. 102(a) as being anticipated by Sakai et al. [US 7,102,473].

Claim 1, Sakai et al. discloses a micro relay [figure 1] comprising: a base substrate [1] having an electromagnetic device [2], said base substrate having a fixed contact [14A, 14B, 15A, 15B] on one surface thereof; an armature block [3] including a frame [31] secured to the surface of said base substrate, a movable plate [30] disposed inside said frame and supported rotatably [by 35] by said frame, and a movable contact base [30B] supported by said movable plate and having a movable contact, said movable plate cooperating with a magnetic material [32] provided on a surface of said movable plate to define an armature and being driven by said electromagnetic device to

Art Unit: 2832

switch on/off a connection between said fixed contact and said movable contact; a cover [4] bonded to said frame, said cover creating a space surrounded by said frame and closed between said base substrate and the cover to accommodate said armature and said fixed contact; wherein said base substrate has a storage recess [16] for accommodating said electromagnetic device, said storage recess being composed of a hole extending from the one surface of said base substrate to a rear surface thereof and a thin storage recess lid [17] fixed on the one surface of said base substrate to close said hole, said electromagnetic device including a yoke [20], a coil [22A, 22B] wound around said yoke to generate a flux in response to an exciting current, and a permanent magnet [21] secured to said yoke to generate a flux flowing through said armature and said yoke.

Claim 2, Sakai et al. discloses the micro relay as set forth in claim 1, wherein said yoke comprises a plate-shaped cross-member and a pair of leg pieces upstanding from both ends of said cross-member [figure 1], said permanent magnet having a height and its opposite faces in a height direction being magnetized to opposite poles, one pole face of said permanent magnet being secured to a longitudinal center of said cross-member between said pair of leg pieces [figure 1], said coil being wound around said cross-member on both sides of said permanent magnet [figure 1], top end surfaces of said leg pieces being energized to opposite poles in response to the exciting current to said coil [col. 4 lines 27-44].

Claim 3, Sakai et al. discloses the micro relay as set forth in claim 2, wherein said cross-member has a concave portion in which said permanent magnet is put [figures 4 and 5].

Claim 4, Sakai et al. discloses the micro relay as set forth in claim 2, wherein said cross-member has convex portions for preventing said coil from dropping [figures 4 and 5].

Claim 5, Sakai et al. discloses the micro relay as set forth in claim 4, wherein said convex portions are formed at four corners on an undersurface of said cross-member [figures 4 and 5].

Claim 8, Sakai et al. discloses the micro relay as set forth in claim 2, wherein a cross-section area of each of said leg pieces is larger than that of said cross-member [figures 4 and 5].

Claim 9, Sakai et al. discloses the micro relay as set forth in claim 1, wherein said storage recess lid is made of a silicon layer which was formed by selectively removing a silicon substrate and an insulating layer from a SOI substrate which comprises the silicon substrate and the thin film silicon layer formed on the insulation layer of the silicon substrate [col. 4 lines 23-26].

Claim 15, Sakai et al. discloses the micro relay as set forth in claim 1, wherein said movable plate is supported by said frame through a supporting spring piece [35] having elastic deformability, said movable contact base being supported by said movable plate through a pressure spring piece, said frame, said movable plate, said

movable contact base, said supporting spring piece, and said pressure spring piece being formed from one semiconductor substrate [figure 1].

Claim 16, Sakai et al. discloses the micro relay as set forth in claim 15, wherein said movable plate has, on a surface facing to said base substrate, a supporting protrusion [36B] at a longitudinal center of the movable plate, an apex of said supporting protrusion being in contact with said base substrate to allow said movable plate to make pivot motion about said apex, said movable plate further having, on the surface facing to said base substrate, stopper protrusions [38A] at both ends in a longitudinal direction, an apex of each of said stopper protrusions coming in contact with said base substrate to regulate pivot motion of the movable plate when said movable plate makes the pivot motion.

Claim 17, Sakai et al. discloses the micro relay as set forth in claim 16, wherein the apex of said supporting protrusion and the apex of each of said stopper protrusions are in a same plane [figure 6].

Claim 18, Sakai et al. discloses the micro relay as set forth in claim 16, wherein the apex of said supporting protrusion, the apex of each of said stopper protrusions, and an apex [33A] of said movable contact base are in a same plane [figure 6].

Claim 19, Sakai et al. discloses the micro relay as set forth in claim 16, wherein a distance from said supporting protrusion to said movable contact base is longer than a distance from said supporting protrusion to a portion of said armature which is attracted to said electromagnetic device [figure 6].

Claim 20, Sakai et al. discloses the micro relay as set forth in claim 16, wherein a distance from said supporting protrusion to said movable contact base is longer than a distance from said supporting protrusion to each of said stopper protrusions [figure 6].

Claim 21, Sakai et al. discloses the micro relay as set forth in claim 15, wherein said pressure spring piece has a meandering part which meanders [figure 7].

Allowable Subject Matter

Claims 6, 7, 10-14 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M and W-F, 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2832

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Br


ELVIN ENAD
SUPERVISORY PATENT EXAMINER
30 SEP 07